

Current Listing of the Claims

1. (Previously presented) A method for forming a fuel cell assembly, comprising the steps of:

a) forming a fuel cell sub-assembly module containing at least two bonded together fuel cell units, said at least two fuel cell units each including an anode, a cathode, and a membrane electrode assembly;

b) testing said sub-assembly module; and

c) joining together a plurality of sub-assembly modules to form said fuel cell assembly.

2. (Cancelled).

3. (Original) A method in accordance with Claim 1 wherein each of said sub-assembly modules comprises a plurality of bipolar plates assemblies interspersed with a plurality of membrane electrode assembly elements.

4. (Original) A method in accordance with Claim 1 wherein said forming step for each of said sub-assembly modules includes the steps of:

a) providing an assembly fixture having at least one alignment element for receiving fuel cell components:

b) selecting $n+1$ number of bipolar plate assemblies and n number of membrane electrode assembly elements, each bipolar plate assembly having an

anode and a cathode, wherein n is the number of said plurality of fuel cell units desired in said sub-assembly module;

c) providing an elastomeric gasket on one of said anode and cathode of $n+1$ bipolar plate assemblies;

d) providing a gasketing element on the other of said anode and said cathode of $n+1$ bipolar plate assemblies, at least one of said elastomeric gasket and said gasketing element including a curable liquid rubber material;

e) installing onto said assembly fixture one of said $n+1$ bipolar plate assemblies, said alignment element engaging said one of said $n+1$ bipolar plate assemblies;

f) installing onto said assembly fixture a membrane electrode assembly element into contact with said just-installed bipolar plate assembly;

g) installing onto said assembly fixture another of said $n+1$ bipolar plate assemblies, the anode of said one or said another of said $n+1$ bipolar plate assemblies being disposed adjacent said cathode of the other of said one or said another of said $n+1$ bipolar plate assemblies, and said alignment element engaging said bipolar plate assembly being installed;

h) repeating steps f) and g) for the remaining number of provided bipolar plate assemblies and provided MEA elements to form a stack of n fuel cell units;

i) applying compressive force to said stack of n fuel cell units whilst curing said curable liquid rubber material of said at least one of said elastomeric gasket and said gasketing element to form a fuel cell sub-assembly module.

5. (Original) A method in accordance with Claim 4 wherein at least one of said elastomeric gasket and said gasketing element is cured prior to said method.

6. (Original) A method in accordance with Claim 4 wherein neither of said elastomeric gasket and said gasketing element is cured prior to said method.

7. (Original) A method in accordance with Claim 4 wherein said elastomeric gasket includes a sealant that is liquid during said bipolar plate installing step.

8. (Original) A method in accordance with Claim 4 wherein said gasketing element includes a sealant that is liquid during said bipolar plate installing step.

9. (Original) A method in accordance with Claim 4 wherein at least one of said membrane electrode assemblies includes gas diffusion layers.

Claims 10-13 (Cancelled).

14. (Previously presented) A fuel cell assembly comprising a plurality of fuel cells bonded together to form a plurality of fuel cell sub-assembly modules, wherein said plurality of fuel cell sub-assembly modules are bonded together to form said fuel cell assembly, wherein at least one of said fuel cells includes a bipolar plate assembly and a membrane electrode assembly.

15. (Cancelled).

16. (Previously presented) A fuel cell assembly in accordance with Claim 14 wherein at least one gasket and at least one gasketing element are positioned between each of said plurality of fuel cells.

17. (Previously presented) A fuel cell assembly in accordance with Claim 14 wherein at least one gasket and at least one gasketing element are positioned between each of said plurality of fuel cell sub-assembly modules.

18. (Previously presented) A method in accordance with Claim 1 wherein said at least two fuel cell units are bonded together using at least one elastomeric gasket and at least one gasketing element.

19. (Previously presented) A method in accordance with Claim 1 wherein said plurality of sub-assembly modules are joined together using at least one elastomeric gasket and at least one gasketing element.

20. (Previously presented) A method in accordance with Claim 4 wherein said at least one alignment element is a rod, wherein each of said bipolar plate assemblies include a bore, and wherein each of said bores receive said rod to align said bipolar plate assemblies.